CHEMICAL RECOVERY SYSTEM SITE
ELYRIA, OHIO

START contractor STN JV evaluated contaminants of concern (COC) mass present in the 0.5-acre area at the northwest corner of the CRS site property. The calculated mass of COCs was used to arrive at a site-specific contaminant mass and volume relationship.

ASSUMPTIONS

The following assumptions were made for mass calculations:

1. Only those sample locations where COCs were present at concentrations above the Region 9 preliminary remediation goal (PRG) action levels were included in the calculations. Contaminant concentrations listed in Figures 4-1 through 4-10 of the RI report were used in these calculations.
2. Each sample location included in the calculation was assumed to cover a 10ft-square area and 4ft or 8 ft deep, depending on the corresponding depth interval.
3. Soil density was assumed to be 1.2 ton per cubic yards.
4. Iron concentration of 190,000 mg/Kg in sample location GP-6 at 8ft – 16ft depth was considered to be an outlier and was not included in the mass calculations. This was the only occurrence of iron above PRG action levels in the 0.5-acre area.

CRITICAL MASS AND VOLUME CALCULATIONS

Mass calculations were performed for three different subsequent depth intervals of 0-4 ft, 4 ft - 8 ft and >8 ft and <16 ft. Soil mass at each sample location was obtained from the product of volume (10'x10'x4' or 10'x10'x8') and soil density (1.2 tons/cu.yd). All concentration of COCs at or above PRG action levels listed in Figures 4-1 through 4-10 of the RI report were summed up for each location and then the total mass of COCs were calculated by multiplying it with the soil mass. The total mass of COCs is shown in Table 1 for each depth interval and the site-specific contaminant mass and volume relationship is shown in Figure 1. Based on our calculations shown in Table 1, the critical mass of COCs is located in the top 4-feet of soil and excavation of soil up to 4ft below ground surface will result in the removal of about 51% of total COCs present in the 0.5-acre area at the northwest corner of the CRS property.

Table 1: Mass of all COCs

Depth	Mass	Mass/Total Mass	Volume
ft	Kg	%	cu.yd
0-4'	159.37	51.28%	3227
4'-8'	62.83	20.22%	3227
>8' - <16'	88.57	28.50%	6454
Total Mass	310.77		

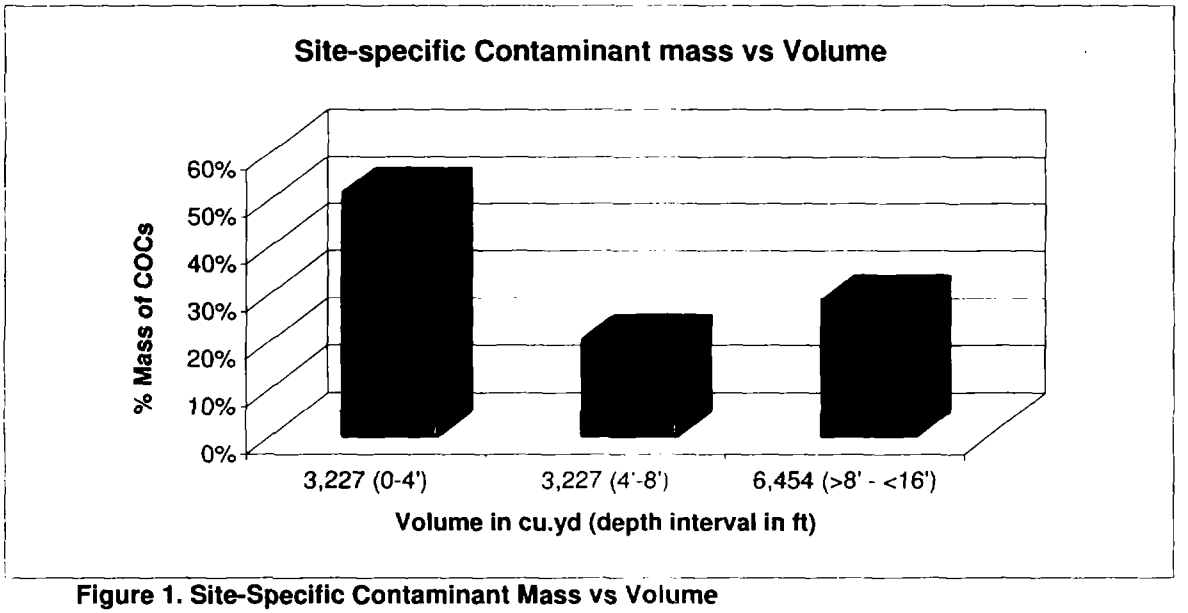

Figure 1. Site-Specific Contaminant Mass vs Volume